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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,523	08/26/2003	Dong-Hoon Kim	21C-0065	4676

7590 07/16/2007
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Bloomfield, CT 06002

EXAMINER

NEGRON, ISMAEL

ART UNIT	PAPER NUMBER
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2885

MAIL DATE	DELIVERY MODE
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07/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/648,523	Applicant(s) KIM ET AL.	
	Examiner Ismael Negron	Art Unit 2885	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-6,9-21,58-62 and 73 is/are pending in the application.
- 4a) Of the above claim(s) 22-57 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,4-6 and 9-21 is/are allowed.
- 6) ☒ Claim(s) 58-62 and 73 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Response to Amendment

2. Applicant's amendment filed on May 7, 2007 has been entered. Claims 58-62 have been amended. Claims 63, 65 and 67-72 have been cancelled. No claim has been added. Claims 1, 4-6, 9-21, 58-62 and 73 are still pending in this application, with claims 1, 22, 40, 46, 52, 58 and 73 being independent. Claims 22-57 have been withdrawn from consideration.

Claim Rejections - 35 USC § 112

Second Paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 58-62 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 58 is indefinite as it is not clear what the limitation "*the V-shaped grooves being linked together*" (lines 9 and 10) means.

The applicant is advised that in the comparing the claimed invention with the Prior Art, the cited limitations were assumed by the Examiner to mean that each of the claimed V-shaped grooves is disposed adjacent another V-shaped groove, as argued by the applicant. However, claimed 58 should be amended to positively recite such interpretation.

5. Claims 59-62 are rejected for their dependency on rejected Claim 58.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 58-62 and 73 is rejected under 35 U.S.C. 103(a) as being unpatentable over RYU et al. (U.S. Pat. Pub. No. 2002/0181223 A1) in view of ISHIKAWA et al. (U.S. Pat. 5,600,455).

7. RYU et al. discloses an light guide plate having:

- **a light incident surface for receiving light from a light source (as recited in claims 58 and 73), as seen in Figure 4;**
- **a first light emission surface (as recited in claims 58 and 73), as seen in figures 6a-7b;**
- **a second light emission surface (as recited in claims 58 and 73), as seen in figures 6a-7b;**
- **the emission surfaces being for emitting light (as recited in claims 58 and 73), inherent, as light will always exit the surface at some angle;**
- **a plurality of protrusions formed on the first light emission surface (as recited in claims 58, 59 and 73), Figure 6a, reference number 21;**
- **the protrusion being circular cylinder-shaped (as recited in claims 58 and 73); as seen in Figure 6a;**
- **the plurality of protrusions being positioned with increasing density as a distance from the light incident surface increases (as recited in Claim 59), as seen in Figure 4;**
- **the size of the plurality of protrusions increasing as a distance from the light incident surface increases (as recited in Claim 60), as seen in Figure 4;**

- **the protrusion parts being formed integrally with the light incident surface increases (as recited in Claim 62), as evidenced by Figure 6a.**

8. RYU et al. further discloses the shape of the dots (triangular pyramid, cylinder, polyhedron, and the like), and its height/depth being determined by the particular requirements (e.g. brightness level, brightness uniformity, scattering angle, etc.) of a specific application (e.g. paragraphs 42 and 43). RYU et al. even further discloses altering the shape, density, distribution, position, arrangement to increase luminance and obtain a uniform luminance distribution (e.g. paragraph 32).

9. RYU et al. discloses all the limitations of the claims, except the protrusion having grooves (as recited in claims 58 and 73), or the plurality of protrusions having substantially identical size being positioned with increasing density as a distance from the light incident surface increases (as recited in Claim 61).

10. ISHIKAWA et al. discloses an illumination device having:

- **a light source**, Figure 10, reference number 5;
- **a light guide plate (as recited in Claim 73)**, Figure 10, reference number 6;
- **the light guide plate having a light incident surface for receiving light from the light source (as recited in Claim 73), as seen in Figure 10;**
- **a transparent member**, Figure 7, reference number 1;

- **the transparent member having a plurality of prisms**, Figure 7, reference number 10;
- **the prisms having grooves**, Figure 7, reference number 11.

11. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the microgrooves ISHIKAWA et al. as the geometrically regular pattern of the patented structure of RYU et al. (as recited in claims 58 and 73), to achieve a desired brightness and uniformity of the emitted light, as per the teachings of RYU et al. and ISHIKAWA et al. In addition, increasing the density of the plurality of protrusions by maintaining the size constant, but increasing the number protrusions by unit area as a distance from the light incident surface increases (as recited in Claim 59) would have flown naturally to one of ordinary skill in the art at the time the invention was made to achieve a desire/required luminance and/or luminance distribution uniformity, as per the teachings of both RYU et al. and ISHIKAWA et al.

Relevant Prior Art

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Suga et al. (U.S. Pat. 6,425,673), **Funamoto et al.** (U.S. Pat. 6,742,907) and **Ho** (U.S. Pat. 6,863,414) disclose light guide plates including a plurality of protrusions located on a surface, a top surface of the protrusions having V-shaped grooves.

Allowable Subject Matter

13. Claims 1, 4-6 and 9-21 are allowed.
14. The following is a statement of reasons for the indication of allowable subject matter:

Applicant teaches a light guide plate having a first and second light emission surfaces, and a light-reflecting pattern formed on the first emission surface. The pattern includes a plurality of dots for reflecting light from the first surface toward the second surface, such reflected light exiting the second surface at a greater angle than light emitted by the first surface. Each dot having light reflecting surfaces elongated in a selected direction, with adjacent light reflecting surfaces meeting each other at the elongated edges to form an angle between the adjacent reflecting surfaces.

No prior art was found teaching individually, or suggesting in combination, all of the features of the applicants' invention, specifically the dots having elongated light reflecting surfaces, with adjacent light reflecting surfaces meeting each other at the elongated edges to form an angle between the adjacent reflecting surfaces.

Response to Arguments

15. Applicant's arguments filed May 7, 2007 have been fully considered but they are not persuasive.
16. Regarding the Examiner's rejection of Claim 73 under 35 U.S.C. 103(a) as being unpatentable over RYU et al. (U.S. Pat. Pub. No. 2002/0181223 A1) in view of

ISHIKAWA et al. (U.S. Pat. 5,600,455), the applicant argues that the cited references fail to individually disclose, or even suggest in combination, all the features of the claimed invention, specifically protrusions having grooves. The applicant further argues that RYU et al. teaches depressions, not protrusions, and that such depressions are not capable of reflecting light. The applicant further argues that there is no motivation to combined the teachings of the cited references as they perform completely different functions, and that the Examiner's conclusion of obviousness was based on improper hindsight reasoning.

17. In response to applicant's arguments that RYU et al. teaches depressions, not protrusions, the applicant is respectfully directed to Figure 6a, where protrusions are clearly disclosed.

18. In response to applicant's argument that the protrusions of RYU et al. are not capable of reflecting light, it is noted that the features upon which applicant relies (i.e. capable of reflecting light toward an LCD panel) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). However, even is the cited claim was amended to define the protrusions as being for reflecting light toward an LCD panel (such as recited by amended Claim 58), the claim would still be unpatentable as, while the features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 44 USPQ2d 1429. In addition, it has been held by the courts

that apparatus claims cover what a device is, not what a device does. *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 15 USPQ2d 1525 (Fed. Cir. 1990). In this case, the protrusions feature by the patented apparatus of RYU et al. are indeed capable of reflecting light toward an LCD panel.

19. In response to applicant's argument that RYU et al. and ISHIKAWA et al. are not combinable because they perform completely different functions, the applicant is advised that test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention is expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In this case, as previous stated it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the microgrooves ISHIKAWA et al. as the geometrically regular pattern of the patented structure of RYU et al. (as recited in claims 58 and 73), to achieve a desired brightness and uniformity of the emitted light, as per the teachings of RYU et al. and ISHIKAWA et al.

20. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does

not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In this case, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the microgrooves ISHIKAWA et al. as the geometrically regular pattern of the patented structure of RYU et al. (as recited in claims 58 and 73), to achieve a desired brightness and uniformity of the emitted light, as per the teachings of RYU et al. and ISHIKAWA et al.

Conclusion

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ismael Negron whose telephone number is (571) 272-2376. The examiner can normally be reached on Monday-Friday from 9:00 A.M. to 6:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong-Suk (James) Lee, can be reached on (571) 272-7044. The facsimile machine number for the Art Group is (571) 273-8300.

22. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications maybe obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, go to <http://pair-direct.uspto.gov>. Should you

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have questions on access to Private PAIR system, contact the Electronic Business Center (EBC) toll-free at 866-217-9197.

/Ismael Negron/
Patent Examiner
AU 2885